

AMENDMENTS TO THE DRAWINGS:

The attached drawing sheets include changes to Fig. 3, wherein the drive motor and tool connection point are shown on opposite sides of the drive part.

Attachment: Replacement Sheets

Annotated Sheets Showing Changes

REMARKS

Summary of the Office Action

In the Office Action, the drawings and specification stand objected to for minor informalities.

Claim 18 stands rejected under 35 U.S.C. § 112, 1st Paragraph.

Claims 10-13 have been rejected under 35 U.S.C. § 112, 2nd Paragraph.

Claims 4 and 12 have been objected to for minor informalities.

Claims 1, 3, 4, 10, 11, 13, 18 and 19 have been rejected under 35 U.S.C. § 102 (b), as being anticipated by U.S. Patent No. 5,135,086 to *Ciolti*.

Claims 12 and 14 have been rejected under 35 U.S.C. § 103 (a), as being unpatentable over *Ciolti*.

Summary of the Response to the Office Action

Applicant proposes amending claims 1, 4 and 11-14, and adding new claim 20. Accordingly, claims 1, 3, 4, 10-14, 18-20 are pending for further consideration.

Objection to the Drawings

In the Office Action, the drawings stand objected to.

Specifically, the Office Action states (see Paragraph 1) that the elements of a drive motor with a connection point provided on the motor, the connection point corresponds to the connection point of a tool, and a drive tool, must be shown. The Office Action further indicates (see Paragraph 2) that the drive motor should be specified on the opposite side as shown, and the exterior view of the neck drive of Fig. 15 does not appear to be that of the claimed invention.

With regard to the aforementioned objections, Applicant respectfully asserts that the aforementioned limitations have been clearly presented in amended Fig. 3, as filed with the July 23, 2004 response. Applicant further respectfully notes that as discussed in Paragraph [0019] of the original specification:

“In addition, the dental instrument can have a drive motor with a high rotation speed and a reduction gear for reducing the rotation speed in a zone between 5 and 25 rotations/sec. This allows the instrument to continue to use existing drive motors when attaching the hand piece according to the invention. Other hand pieces can be attached to the motor by means of a connection point, which corresponds to the connection point of a hand piece with high rotation speed.”

From this discussion, one of ordinary skill in the art would clearly understand that other hand pieces can be attached to the motor (see amended Fig. 3 per July 23, 2004 response) by means of a connection point, which corresponds to the connection point of a hand piece with a high rotation speed. However, in order to further clarify the locations of the drive motor and the tool connection point, Applicant proposes amending Fig. 3 to show the drive motor and tool connection point on opposite sides of the drive part.

Further, with regard to the drive tool, Fig. 15, as added per the July 23, 2004 response, clearly illustrates an exemplary drive tool (i.e. a root canal tool). With regard to the Examiner's assertion in the Office Action, Applicant respectfully agrees with the Examiner that the exterior view of the neck drive of Fig. 15 does not appear to be that of the claimed invention. This is because Figs. 1a and 2, for example, illustrate internal views of the instrument of Fig. 15, without the exterior aesthetic covering of Fig. 15.

Based upon the explanations above, Applicant respectfully requests withdrawal of the objections to the drawings.

Objection to the Specification

In the Office Action, the specification stands objected to as including grammatical or idiomatic errors.

Applicant respectfully thanks the Examiner for the noted grammatical errors in the specification, and proposes amending the specification as shown above.

Accordingly, Applicant respectfully requests withdrawal of the objection to the specification.

Rejection under 35 U.S.C. 112, 1st Paragraph

In the Office Action, claim 18 stands rejected under 35 U.S.C. 112, 1st Paragraph.

Specifically, the Office Action states that it is not clear how “the drive motor and connection point for a tool enables the instrument to utilize the reduction gear and magnetic clutch.”

With regard to the aforementioned inquiry, Applicant respectfully directs the Examiner’s attention to, for example, Paragraph [0019] in the original specification, which states:

“In addition, the dental instrument can have a drive motor with a high rotation speed and a reduction gear for reducing the rotation speed in a zone between 5 and 25 rotations/sec. This allows the instrument to continue to use existing drive motors when attaching the hand piece according to the invention. Other hand pieces can be attached to the motor by means of a connection point, which corresponds to the connection point of a hand piece with high rotation speed.”

Applicant further respectfully directs that Examiner’s attention to the discussion in Paragraph [0031], which states:

“The neck drive 1 of the Figure 1a, as well as the neck drive 21 of the Figure 2, can be positioned in an angle with respect to a drive part 31 represented in the Figure 3. The drive part 31 has a connection on a drive motor, which is not represented, so that a dental angle piece is created. Also the drive part 31 has a magnetic clutch with clutch parts 32, 33, that can be influenced by a corresponding transmission of the sleeve 13 known from the neck drive 1 of Figure 1. In addition, a reduction gear 34 is provided in the drive part 31 which reduces the high rotation speed produced from the drive motor. As the reduction increases in a corresponding manner, the torque on the output side, the torque threshold, can be influenced by means of the magnetic clutch with the clutch parts 32, 33.”

Based upon this exemplary discussion and the illustrations of Figs. 1, 3 and 15, Applicant respectfully asserts that one of ordinary skill in the art would readily understand the operation of a drive motor which is connected to the dental instrument of Fig. 15, the gear reduction which

takes place by means of reduction gear 34 to reduce the motor rotation speed, and the operation of magnetic clutches 7, 11 and 32, 33.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. 112, 1st Paragraph rejection of claim 18.

Rejection under 35 U.S.C. 112, 2nd Paragraph

In the Office Action, claims 10-13 stand rejected under 35 U.S.C. 112, 2nd Paragraph.

Specifically, the Office Action indicates that with regard to claims 10, 11 and 13, it is unclear that “the magnetic clutch element” has been claimed to be further limited.

With regard to the inquiry above, Applicant respectfully notes that dependent claim 10 further recites a switching means (i.e. switch 14) which cooperates with sleeve 13. With regard to dependent claim 11, claim 11 recites a function of the magnetic clutch element after declutching, which is not recited in independent claim 1. Lastly, with regard to dependent claim 13, claim 13 recites the dental instrument of claim 1 including a drive tool, and a property of the transmission device of independent claim 1.

Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. 112, 2nd Paragraph rejection of claims 10-13.

Objection to the Claims

In the Office Action, claims 4 and 12 have been objected to for minor informalities.

Applicant respectfully thanks the Examiner for the noted suggestions for amending the claim language, and proposes amending the claims as shown above.

Accordingly, Applicant respectfully requests withdrawal of the objection to claims 4 and 12.

All Claims are Allowable

In the Office Action, claims 1, 3, 4, 10, 11, 13, 18 and 19 have been rejected under 35 U.S.C. § 102 (b), as being anticipated by U.S. Patent No. 5,135,086 to *Ciolti*. Claims 12 and 14 have been rejected under 35 U.S.C. § 103 (a), as being unpatentable over *Ciolti*. Applicant traverses these rejections for the following reasons.

Independent claim 1

With regard to independent claim 1, Applicant respectfully asserts that *Ciolti* does not teach or suggest a dental instrument having a transmission device with at least one magnetic and/or magnetizable clutch element, the clutch element having an air gap, the instrument including, “a means for influencing the transmission torque of the magnetic and/or magnetizable clutch element by modifying the magnetic flux of the clutch element, said means for influencing being movable to modify the magnetic flux and thereby limit the transmission torque to a predetermined selectable threshold value, said means for influencing thereby enabling generally continuous operation of a drive tool operated by said dental instrument to transmission torques generally below the predetermined selectable threshold value,” as recited in independent claim 1, as amended.

Support for these features recited in claim 1 can be found at least in Paragraphs 26-51 of the originally filed specification, and in Fig. 1a of the originally filed drawings. Specifically, as shown in Fig. 1a, the present invention provides a dental instrument having a transmission device with at least one magnetic and/or magnetizable clutch element 7, 11 including an air gap 12. The dental instrument includes a means for influencing the transmission torque of the magnetic and/or magnetizable clutch element 7, 11 by modifying the magnetic flux of the clutch elements. As recited in dependent claim 3 and dependent claim 19, in the embodiment of Fig. 1a, the means for influencing is a magnetically soft sleeve 13, movement of which enables modification of the flux guide between clutch elements 7, 11. Since reduction of the magnetic field is highest in the position of sleeve 13 in relation to clutch elements 7, 11, when sleeve 13 is moved along shanks 2, 8 of the dental instrument, the reduction of the magnetic field between clutch elements

7, 11 and sleeve 13 is weakened, and the transmitted torque between clutch elements 7, 11 is amplified. As shown in Fig. 1a, the means for influencing (i.e. sleeve 3) is movable to modify the magnetic flux and thereby limit the transmission torque to a predetermined selectable threshold value. As discussed in Paragraphs 9 and 38, and as illustrated in Fig. 6, the means for influencing thereby enables generally continuous operation of a drive tool operated by the dental instrument to transmission torques generally below the predetermined selectable threshold value.

The Office Action cites *Ciolfi* as teaching or suggesting the dental instrument as recited in claims 1, 3, 4, 10-14 and 18.

Ciolfi, as illustrated in Figs. 2 and 3 thereof, discloses an assembly tool including clutch annulus 120 and a magnetic coil 144. When the magnet coil 144 is energized, the frictional clutch surface 126 of the clutch annulus 120 is drawn toward and contracts the clutch surface 132 of the annular clutch core 130, (Col. 6:40-43). Free rotation of the clutch annulus 120 is thereby inhibited such that the wrap-spring 100 is wound down and tightened about the aligned surfaces of the cylindrical barrel 88 of the input hub 76 and the cylindrical barrel 108 of the output hub 106, (Col. 6:44-48). Accordingly, power is transferred from the input hub 76 to the output hub 106, (Col. 6:48-50). The condition will continue as long as the magnet coil 144 of the electromagnetic assembly 140 is energized, (Col. 6:50-52). When the output sensor 22 of other control device has sensed that the instantaneous torque applied by the assembly tool 10 to a fastener has reached a predetermined level, the control terminates the flow of electrical energy to the magnet coil 144, (Col. 6:52-56). When the magnet coil 144 is de-energized, the clutch surface 126 of the clutch annulus 120 is released from contact with the clutch surface 132 of the clutch core 130, (Col. 6:57-60).

Contrary to the transmission device recited in independent claim 1 of the present invention, *Ciolfi* therefore clearly does not teach or suggest, a transmission device with at least one magnetic and/or magnetizable clutch element, the instrument including, “a means for influencing the transmission torque of the magnetic and/or magnetizable clutch element by modifying the magnetic flux of the clutch element, said means for influencing being movable to modify the magnetic flux and thereby limit the transmission torque to a predetermined selectable

threshold value,” or “said means for influencing thereby enabling generally continuous operation of a drive tool operated by said dental instrument to transmission torques generally below the predetermined selectable threshold value,” as recited in independent claim 1, as amended.

Specifically, whereas the clutch device of *Ciolfi* discloses the use energizable magnet coil 144 to engage the clutch elements and the use of output sensor 22 to disengage the clutch elements when a predetermined torque is sensed, *Ciolfi* clearly does not disclose the magnet coil 144 being movable for modifying the transmission torque. In other words, *Ciolfi* clearly does not teach or suggest, “said means for influencing being movable to modify the magnetic flux and thereby limit the transmission torque to a predetermined selectable threshold value,” as recited in independent claim 1, as amended.

As pointed out in MPEP § 2131, “[t]o anticipate a claim, the reference must teach every element of the claim.” “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”

Verdegaal Bros. v. Union Oil Co. Of California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

Moreover, as pointed out in M.P.E.P. § 2143.03, “[t]o establish prima facie obviousness of a claimed invention, all the claimed limitations must be taught or suggested by the prior art”. *In re Royka*, 409 F.2d 981, 180 USPQ 580 (CCPA 1974). Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. § 102 (b) should be withdrawn because *Ciolfi* does not teach or suggest each feature of independent claim 1, as amended.

In view of the above arguments, Applicant respectfully requests the rejection of independent claim 1 under 35 U.S.C. § 102 be withdrawn. Additionally, claims 3, 4, 10-14, 18 and 19, which depend from independent claim 1, are allowable at least because their base claim is allowable, as well as for the additional features recited therein.

Allowance of Dependent claims 2, 5-9 and 15-17

Applicant respectfully asserts that under the provisions of MPEP 806.04(d), claim 1 is generic in that it reads on each of the embodiments of Figs. 1-14 and includes no material element additional to those recited in the species claims. Accordingly, under the provisions of

MPEP 806.04(d), with regard to the remaining species (i.e. Figs. 2, 7, 8a-e, 9a, b, 10a, b, and 11-13), Applicant respectfully requests allowance of the remaining non-elected claims 2, 5-9 and 15-17, upon allowance of generic independent claim 1.

New Independent claim 20

With regard to independent claim 20, Applicant respectfully asserts that *Ciulli* does not teach or suggest a dental instrument having a transmission device with at least one magnetic and/or magnetizable clutch element, the clutch element having an air gap, the instrument including, “a means for influencing the transmission torque of the magnetic and/or magnetizable clutch element by modifying the magnetic flux of the clutch element, said means for influencing being movable to modify the magnetic flux and thereby limit the transmission torque to a predetermined selectable threshold value, said means for influencing thereby enabling operation of a drive tool operated by said dental instrument to transmission torques generally below the predetermined selectable threshold value,” as recited in independent claim 20.

Applicant respectfully asserts that independent claim 20 is allowable for at least the reasons presented above for the allowance of independent claim 1, and the additional features recited therein.

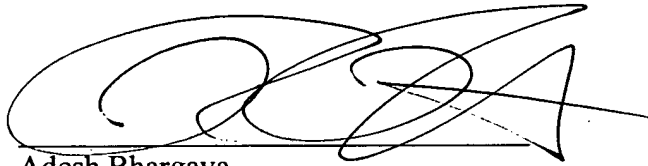
CONCLUSION

In view of the foregoing, Applicant respectfully requests reconsideration and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of the response, the Examiner is invited to contact the Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 04-2223. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

DYKEMA GOSSETT PLLC

A handwritten signature in black ink, appearing to read 'Adesh Bhargava', is written over a horizontal line.

By:

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